



#8/Amendment  
w/Drawings  
PATENT  
7/2/03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Examiner:	Chih Cheng G. Kao
T. GRIMSLEY	)		
Serial No.: 09/750,426	)	Art Unit:	2882
Filing Date: December 28, 2000	)		
For: SYSTEMS AND METHODS FOR	)		
FABRICATING AN ELECTRO-	)		
OPTICAL DEVICE USED FOR	)		
IMAGE SENSING	)		
	)		
Attorney Docket No.: D/A0140	)	Cleveland, Ohio 44114	
XERZ 2 00541	)	June 13, 2003	
Last Office Action: March 28, 2003	)		

RESPONSE

Asst. Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

This amendment is in response to the Office Action dated March 28, 2003. The following amendments and remarks are respectfully submitted in connection with the above-identified application. The applicant respectfully requests reconsideration of the application

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## **INTRODUCTORY COMMENTS**

### **The Office Action**

Claim 1 was rejected under 35 U.S.C. §112 as being incomplete for omitting essential steps.

Claims 1-3, 5-8, 11, 12, 15-17, and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ikeno et al. ("Ikeno") (US Patent 5135891) in view of Koizumi et al. ("Koizumi") (US Patent 5698892).

Claims 4, 9, 10, 13, 14, 18, and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ikeno in view of Koizumi as applied to claims 1 and 8 above, and further in view of McColgin et al. ("McColgin") (US Patent 4553153).

Figures 1, 2A and 2C have been objected to due to various informalities.

### **The Present Application**

The present application discloses new and improved systems and methods for fabricating an electro-optical device used for image sensing. After providing a substrate with at least one photosensor, a first filter layer is applied above the substrate. The methods and systems involved make use of an inter-filter layer that serves to smooth a top surface of the electro-optical device between successive applications of the filter layers, without removing any portion of the inter-filter layer. This results in a more efficient process to smooth a surface of a photosensitive chip since there is less waste and production time is not increased.

### **The References of Record**

**Ikeno** discloses a method for forming film of uniform thickness on a semiconductor substrate having a concave portion. A photoresist of sufficient thickness to

fill a scribe line is applied on an entire substrate. The photoresist is then exposed through a photomask having a pattern corresponding to the scribe line and is then developed, removing a portion of the inter-filter layer.

**Koizumi** discloses an image pickup element and device having scribe lines composed of two portions with different layer structure. A color solid-state image pickup device is separated into a plurality of color solid-state image pickup chips. Each chip consists of a photoelectric conversion portion and a peripheral circuit portion formed on a semiconductor substrate. A portion of both the transparent resist layer and passivation layer are removed from the chip.

**McColgin** discloses a planarizing layer for semiconductor substrates such as solid state imagers. A device has a planarizing layer applied on a non-planar semiconductor substrate. The layer comprises a polymer formed from a liquid monomer that is coated onto the substrate and then polymerized.